

Political and Militant Wings within Dissident Movements and Organizations

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A model is developed to provide a basis for investigating the nature of faction behavior and the interrelationships between factions and between factions and their supporters under conditions of competition and cooperation. A general finding of the study illustrates the fact that when factions act competitively and independently of one another, the results do not necessarily lead to increased dissident activity and violence when compared to the case when factions act jointly and coordinate their actions. For example, when faction activities generate positive externalities and are strategic complements, competition and the independent behavior of factions lead to decreased levels of dissident activity. The model can also be used to derive implications for various types of counterterrorism policies when a government faces independently acting groups within a dissident movement.

Keywords: *terrorism; counterterrorism policies; competing factions; externalities*

At certain times, political movements and organizations must feel like they are being confronted with the hard choice of determining which type of activities they should stress and emphasize the most, the political or the militant. The answer, however, is not altogether obvious. History and recent past experience demonstrate that dissident and radical movements may be made up of many factions, and although there may be agreement among them as to what might be the broad political objectives of the movement (although there may even be disagreement with this aspect of the movement as well), each may have different opinions as to how to go about achieving them. As a result, an organization can divide into and exist as various separate factions, each directly serving its own interests with methods and means it deems most appropriate while still maintaining the claim of supporting the common interests of the movement.

It is thus easy to imagine situations in which some groups opt to choose the use of nonviolent means by which to support and achieve their political goals, while others, perhaps frustrated over what they perceive as the lack of progress in achieving these goals, may opt to engage in more violent activities. However, even if dissatisfaction and frustration are at low levels within a dissident organization and there is little pres-

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sure for exit, there may be strategic reasons for having multiple factions. For example, during the first Palestinian Intifada in 1988, the Muslim Brotherhood formed the militant group Hamas to counter its fears of losing support and members to the secular Palestinian Liberation Organization (Berman 2003). Whatever the initial cause or reason for the separation in dissident movements, the resulting competition and the possible lack of coordination can generate various externalities among existing factions. Given the nature of a dissident enterprise and the factions' activities, the effects can be positive or negative depending on whether or not the activities of a faction help contribute to the cause and whether or not the activities help bring increased support to all factions of the movement. The effects can also be indirect if the impact of a change in one faction's actions leads to changes in the actions of the other. Not only do these effects have implications for faction behavior, but they also have implications for the overall movement as well.

The Italian Red Brigade, for example, emerged in 1970 and was mostly formed by the more radical members of the Communist Youth League who were disenchanted with the Italian Communist Party's lack of activism. As a result of the split, the activities and presence of the independent Red Brigade seemed not only to have harmed the Italian Communist Party's political prospects, but their actions may have also helped sustain the Christian Democrats' hold on power for a considerable period of time (Laqueur 1999). Nonetheless, in certain cases, the combined use of violence and politics can be particularly effective, especially if the actions of the groups are well coordinated. For instance, the National Organization of Cypriot Fighters (EOKA) used attacks against British forces and the ensuing crackdowns they would entail to garner increased financial support from the Greek-Cypriot community. At the same time, however, the founder and commander of EOKA coordinated his efforts and the efforts of his militant group with that of the community's political leader, Michael Mouskios, who later became the country's first president (Hoffman 1998).

To capture the behavior of dissident movements and illustrate some of the various interactions that can exist between separate factions and to determine the implications for policy, a simple model is used with two separate factions: a political and a militant one. In either case, it is assumed that each wing chooses to engage in activities to convey some political message or to achieve some political objective (either of which has private and public good characteristics) while ensuring that the amount of resources it has access to is sufficient to sustain its activities. To further fix ideas, assume that the political wing engages in above-ground activities that are designed to develop broad support for its mission. These activities may entail building a network of members and activists and working toward mobilizing the target community for eventual political action. The wing may also provide various services to the community such as religious, educational, and charitable services. Conversely, assume that the militant or terrorist group operates covertly and engages in violent activities such as hostage taking, assassinating political figures, and bombing key targets to convey a political message or to achieve some political outcome.¹

1. Terrorism can be defined "as the premeditated use or threat of use of violence by individuals or subnational groups to obtain a political or social objective through intimidation of a large audience beyond that of the immediate victims" (Enders and Sandler 2005 [this issue], 260). My description of militant activities and their objectives is consistent with this definition.

Nonetheless, the activities of each wing should not only be viewed as serving to further the political objectives of the wing but also as a way of helping attract and retain support by appealing to the attitudes and loyalty of its own sympathizers and followers (Crenshaw 2001). Furthermore, since the independent pursuit of these activities has external effects, the noncooperative outcome will generally differ from an outcome that would be obtained if both groups jointly coordinated their efforts. Depending on the nature of competition and interaction between the two wings, there can be too little or too much of a particular activity being undertaken from a cooperative point of view. In the next section, we specify and describe four possible scenarios that capture and illustrate the interactions between the two factions in addition to introducing the basic model. In the following section, we investigate possible policy implications that can be derived from the noncooperative equilibrium, while the subsequent section is devoted to explicitly comparing the outcome with that of the cooperative one. In making this comparison, we can then test Crenshaw's (2001) hypothesis that competition between groups may lead to an escalation of activities as each group tries to outdo the other to retain and attract potential members and sponsors. The last section summarizes the results and concludes the article.

THE MODEL

To start, let the militant and political wings be indexed respectively by $i = m, p$. Also assume that each faction solves the typical free-riding problem (such that their members act collectively) and has preferences represented by the following utility function:

$$U^i = u^i(g^i, G, x^i), \quad i = m, p, \quad (1)$$

where G is the public good with respect to the movement, and x^i is the wing's private numeraire good.² Let G be equal to the weighted summation of the contributions to the movement that result from the separate activities of the two wings: $G = \delta g^m + g^p$, where g^m and g^p , respectively, represent the contributions of the militant and political wings. The weight, δ , is an exogenous parameter that represents the effectiveness of the militant wing's contributions to the movement such that if $\delta = 1$, the wing is just as effective as the political wing, whereas if $\delta = 0$, the militant wing's activities have no impact on the level of provision of G . Also note that a wing's contribution to the movement provides a private benefit to itself as well since g^i is present as a separate argument of the wing's utility function.

In addition to each wing's contributions being a function of its own activities (t and s), these contributions are also a function of a parameter (either θ or σ) such as the media or the efforts of a governmental agency. These exogenous factors are capable of influencing a wing's ability to convert its actions into influencing political events and achieving its political goals. These functions are given by

2. We will later assume that $u^i(g^i, G, x^i)$ is separable and linear in all its arguments. This allows us to ignore cross-partial terms tied to the utility function without greatly detracting from the generality of our results. We retain the general form for present expositional purposes.

$$g^m = g^m(t, \theta), \quad (2a)$$

$$g^p = g^p(s, \sigma). \quad (2b)$$

Furthermore, let the functions have the following characteristics: $g_t^m > 0$, $g_s^p > 0$, $g_{tt}^m < 0$, $g_{ss}^p < 0$, $g_{t\theta}^m > 0$, and $g_{s\sigma}^p > 0$, where subscripts denote first-order and second-order partial derivatives. The interpretation of these is straightforward. With respect to the political wing, an increase in its activities such as educating and mobilizing workers increases its contribution to the public good as well as to its own well-being. However, this occurs at a diminishing rate. The positive sign of $g_{s\sigma}^p$, on the other hand, attempts to capture the possibility that increased media attention and coverage enhance the marginal contribution of the political wing's contribution to the movement. A similar interpretation applies to the militant wing as well. A militant group's activities provide private and public benefits if, for example, a bombing campaign against political targets by the group increases its own stature as well as that of the movement. If so, increased media coverage can then also serve to enhance these effects.

The resource constraint for each wing is given by

$$x^m + c^m(t, \psi) = e^m + \alpha m(t, s), \quad (3a)$$

$$x^p + c^p(s, \gamma) = e^p + \beta n(s, t), \quad (3b)$$

where e^m and e^p are the initial endowments belonging to the two factions, and $c^m(t, \psi)$ and $c^p(s, \gamma)$ are their respective cost functions, which are increasing and convex with respect to their first argument and decreasing with respect to their second argument. Also assume that the cross-partial term for each cost function is negative. The parameters ψ and γ may represent technology, for example, and the efficacy with which each wing carries out its activities. Thus, for instance, if there are technological innovations in carrying out particular attacks, then for given levels of activity, not only do overall costs fall but marginal costs fall as well.

The respective resource functions— $m(t, s)$ and $n(s, t)$ —for the militant and political wings depend on their own activities and those of the other wing. Let each of these functions be increasing and concave with respect to their first argument (e.g., $m_t > 0$ and $m_{tt} < 0$). The parameters α and β represent the monetary benefits from each unit of the resources supplied by a faction's members and supporters. These functions serve a dual purpose. For one, they capture the dictum "that the fundamental purpose of any political organization is to maintain itself" (Crenshaw 2001, 19). Thus part of a wing's activities is directly allocated toward generating and obtaining support for its operations. However, it is possible that the activities of the wing also serve as advertisements for attracting additional resources from faithful and potential members and supporters. A militant wing, for instance, may mount a spectacular attack not only to further its political objectives and to demonstrate the strength with which it holds its cause (which provides it with private and public benefits) but to also entice members and supporters into contributing additional resources. If so, terrorist acts may stimulate members and supporters into giving more of their time and money. Supporters could

alternatively donate in kind, providing access to weapons, explosives, and safe houses, all of which help facilitate a group's operations. An analogous argument also applies to political wings as well.

Second, the specifications of the resource functions attempt to capture possible external effects that might exist between the two wings as a result of their activities.³ To allow for the various effects, then, let the four scenarios be described as follows.

Scenario 1: Mutually reinforcing actions and strategic complements such that

$$\begin{aligned} m_s &> 0 & m_{ts} = m_{st} &> 0, \\ n_t &> 0 & n_{st} = n_{ts} &> 0. \end{aligned}$$

Scenario 2: Mutually interfering actions and strategic substitutes such that

$$\begin{aligned} m_s &< 0 & m_{ts} = m_{st} &< 0, \\ n_t &< 0 & n_{st} = n_{ts} &< 0. \end{aligned}$$

Scenario 3: A "mixed" case such that the activities of the political wing provide direct and indirect external resource-recruiting benefits to the militant wing, while the activities of the militant wing directly and indirectly detract from the resources and efforts of the political wing such that

$$\begin{aligned} m_s &> 0 & m_{ts} = m_{st} &> 0, \\ n_t &< 0 & n_{st} = n_{ts} &< 0. \end{aligned}$$

Scenario 4: A "mixed" case such that the activities of the political wing directly and indirectly detract from the resources and efforts of the militant wing, while the activities of the militant wing provide direct and indirect resource benefits to the political wing such that

$$\begin{aligned} m_s &< 0 & m_{ts} = m_{st} &< 0, \\ n_t &> 0 & n_{st} = n_{ts} &> 0. \end{aligned}$$

Scenarios 1 and 2 both represent the symmetric case in which a faction's activities have similar effects on the other faction in terms of resources. In scenario 1, the direct and indirect effects are positive, while in scenario 2, they are both negative (see Bulow, Geanakoplos, and Klemperer 1985 for the nature of strategic substitutes and complements). Scenario 1 can be viewed as depicting a situation in which there is strong underlying demand among a movement's supporters for both types of activities. If both types of activities are perceived as being conducive and necessary to the move-

3. If we allowed for more than one wing for each type, we could depict terrorist organizations linked to al Qaeda or even, for example, the initial situation that the Official Irish Republican Army (IRA) found itself in with the Provisional IRA in 1969 and early 1970s. At that point in time, the Official IRA faced a choice: to become more radicalized to prevent members and resources departing and flowing to the Provisional IRA (Crenshaw 2001, 22) or to become sidelined and overshadowed by the growing support for the more militant "Provos."

ment, then not only does each activity help generate resources for the other faction, but each activity also strategically enhances the other. These characteristics also help to describe certain types of nationalistic movements at particular points in time. For example, the interactions between Basque political and militant wings, such as Herri Batasuna and the ETA (Euskadita de Askatasuna), sometimes appeared to further the interests and objectives of each group during the early period of Spain's transition from authoritarian rule to democracy (Shabad and Ramo 1995). Another example is Hamas. Although mostly associated with suicide bombings, Hamas also engages in political activities such as education, mobilization, protest, and worker strikes in addition to being viewed by supporters as the main alternative to the Palestinian Liberation Organization (Esposito 2002, 95-8).

Scenario 2 depicts a relationship between the two factions that perhaps can be best described as being competitive and driven by rivalry. Not only do the activities of one faction detract and take away resources from the other, but its activities also are strategic substitutes of the other faction. Underlying these effects is the fact that resources for the movement are limiting and the sense and perception by supporters that the action of one faction effectively substitutes that for the other. Scenario 2 can therefore serve to illustrate such situations as the factionalism experienced by the Irish Republican Army (IRA) during the late 1960s and 1970s and the past and present rivalry between Hamas and the Palestinian Liberation Organization (PLO).

On the other hand, both scenarios 3 and 4 are an attempt to capture the likelihood that the external resource effects are asymmetric. For example, in scenario 3, a militant terrorist bombing campaign may win increased support from committed ideologues but may disabuse a general citizenry, inducing them to withdraw their support to any group that may be associated with the movement. Increased political activity, however, provides positive benefits to the militant group and enhances the effectiveness by which the militant group raises its financial and material support. For scenario 4, the effects are reversed. This depicts the situation in which the activities of the political wing, such as in mobilizing support for a civil rights campaign, tend to undermine the activities of the militant group. This might occur, for example, if militant sponsors and backers expected the political campaign to have a high probability of success and switched their support. The latter two scenarios may thus be viewed as representing two special cases in which military and political wings operate under conditions that tend to be more favorable to one faction and less favorable to the other. In addition to depicting the varying relations between the Provisional IRA and Sinn Fein in more recent years, these scenarios may also depict a transitional period between scenarios 1 and 2, in which one wing loses popular support or gains it at the expense of another.

Using the expressions for G , g^p , g^m and solving the resource constraints for each x^i , $i = m, p$, we can rewrite the utility function for each faction as

$$U^m = u^m(g^m(t, \theta), \delta g^m(t, \theta) + g^p(s, \sigma), e^m + \alpha m(t, s) - c^m(t, \psi)), \quad (4a)$$

$$U^p = u^p(g^p(s, \sigma), \delta g^m(t, \theta) + g^p(s, \sigma), e^p + \beta n(s, t) - c^p(s, \gamma)). \quad (4b)$$

To facilitate the analysis, let each utility function be linear with respect to g^i , G , and x^i .⁴ After combining like terms, we then have

$$U^m = (1 + \delta)g^m(t, \theta) + g^p(s, \sigma) + e^m + \alpha m(t, s) - c^m(t, \psi), \quad (4a')$$

$$U^p = \delta g^m(t, \theta) + 2g^p(s, \sigma) + e^p + \beta n(s, t) - c^p(s, \gamma). \quad (4b')$$

In the case in which the two wings act independently, each wing or faction chooses its own activities while taking the other's activities as given. The noncooperative Nash equilibrium can thus be characterized as maximizing (4a') with respect to t and (4b') with respect to s . On the other hand, in a cooperative outcome, all externalities are internalized if both parties jointly agree to take into account the impact of each other's activities on each other as well as themselves. Joint welfare is given by

$$U^c = (1 + 2\delta)g^m(t, \theta) + 3g^p(s, \sigma) + e^m + e^p + \alpha m(t, s) + \beta n(s, t) - c^m(t, \psi) - c^p(s, \gamma), \quad (5)$$

where $U^c \equiv U^m + U^p$.⁵ The cooperative equilibrium can then be characterized by maximizing (5) with respect to t and s . In the next section, we first describe and depict the noncooperative equilibrium.

COMPETING FACTIONS

THE MILITANT WING

The first-order condition for the militant wing is given by

$$(1 + \delta)g_t^m(t, \theta) + \alpha m_t(t, s) - c_t^m(t, \psi) = 0. \quad (6)$$

The militant wing sets the sum of the marginal benefits obtained in conveying its political message (or moving toward its objective) and in improving its resource support equal to the marginal cost of engaging in terrorist activities. The wing's second-order condition is satisfied and given by

$$(1 + \delta)g_{tt}^m(t, \theta) + \alpha m_{tt}(t, s) - c_{tt}^m(t, \psi) < 0. \quad (7)$$

Together, equations (6) and (7) represent sufficient conditions for a maximum. Note that if the impact of terrorist activities not only detracts from the overall cause of the movement (in terms of public good provision) but also nullifies any private benefit to the wing as well (i.e., if $\delta = -1$), condition (6) still holds. A militant wing still has an incentive to engage in terrorist activities so long as the added cost of operations is

4. Even with the restrictions, the utility function will not be linear with respect to the ultimate decision variable because g^i , the resource function, and c^i are all specified as being nonlinear functions of either t or s .

5. To determine joint welfare, we assume an additive Bethamite social welfare function with unit weights.

offset by the benefit of increased resource support from its sponsors. The implication helps resolve one paradox of terrorism stating that terrorist acts usually appear to be self-defeating, not just from the overall perspective of the movement but also from the perspective of the faction engaging in the activity as well. Appearances notwithstanding, terrorist acts may help keep a cause alive until a pivotal time is realized (Schelling 1991). For example (as cited in Schelling 1991), Irish Republican terrorism may have sustained the movement until the hoped-for favorable political outcome arrived. Whether such a moment arrived or whether the IRA has achieved its objectives is another matter, but the interpretation of (6) provides one possible answer to the question of how a faction might persist in seemingly politically self-defeating activities: a militant group will still engage in terrorist activities if only to attract funds from its base of diehard members and supporters.

From equation (6), we can derive the implicit expression that characterizes the militant wing's best-response function, $t^* = BR^m(s; \delta, \theta, \alpha, \psi)$. The slope of this is given by

$$\frac{\partial BR^m}{\partial s} = \frac{-\alpha m_{ts}}{(1 + \delta)g_{tt}^m + \alpha m_{tt} - c_{tt}^m}. \quad (8)$$

The slope thus depends on the sign of m_{ts} . For scenarios 1 and 3, we have $m_{ts} > 0$. In these two cases, the best-response function of the militant wing has a positive slope, implying that an increase in the political wing's activities will result in higher levels of activities by the militant wing since the political wing's activities help enhance the ability of the militant wing's activities to attract resources. For scenarios 2 and 4, the best-response curve for the militant group is downward sloping since $m_{ts} < 0$. This depicts a situation in which increased political activity erodes militant support and results in lower terrorist activity.

THE POLITICAL WING

The political wing engages in political support activities, taking the actions of the militant wing as given. The first- and second-order conditions characterizing the faction's optimum are given by

$$2g_s^p(s, \sigma) + \beta n_s(s, t) - c_s^p(s, \gamma) = 0, \quad (9)$$

$$2g_{ss}^p(s, \sigma) + \beta n_{ss}(s, t) - c_{ss}^p(s, \gamma) < 0. \quad (10)$$

From (9), we derive the best-response function of the political wing, $s^* = BR^p(t; \sigma, \beta, \gamma)$, and characterize its slope by

$$\frac{\partial BR^p}{\partial t} = \frac{-\beta n_{st}}{2g_{ss}^p + \beta n_{ss} - c_{ss}^p}. \quad (11)$$

The sign of expression (11) thus depends on the sign of $n_{st}(s, t)$. In scenarios 1 and 4, this term is assumed to be positive, and in scenarios 2 and 3, it is assumed to be negative.

APPLICATIONS

Simultaneously solving equations (6) and (9), we obtain the Nash equilibrium activity levels of the two competing factions: $t^* = t^*(\delta, \theta, \alpha, \psi, \sigma, \beta, \gamma)$ and $s^* = s^*(\delta, \theta, \alpha, \psi, \sigma, \beta, \gamma)$. Given the characterization of the equilibrium by the two equations, it is of interest to draw implications for the behavior of the two factions and to determine how their actions may relate and respond to changes in some of the parameters of the problem. Each case is examined separately, although it should be noted that the following discussion is by no means comprehensive since space limitations only allow us to give a flavor of the possible policy implications that can be derived from the model.⁶

Scenario 1 illustrates the case in which the activities of the factions tend to be mutually reinforcing. As such, the signs of all comparative-static results are positive. For example, suppose the parameter θ represents the influence of the media and communications on the ability of the factions to achieve or convey their political objective or message. Also, let θ be identically equal to σ so that both functions $g^m(\cdot)$ and $g^p(\cdot)$ are affected by the same parameter. If so, then totally differentiating (6) and (9) with respect to θ gives the following results for changes in t^* and s^* :

$$\frac{dt^*}{d\theta} = \frac{-(1+\delta)g_{t\theta}^m(2g_{ss}^p + \beta n_{ss} - c_{ss}^p) + 2g_{s\theta}^p \alpha m_{ts}}{|J|}, \quad (12)$$

$$\frac{ds^*}{d\theta} = \frac{-2g_{s\theta}^p[(1+\delta)g_{tt}^m + \alpha m_{tt} - c_{tt}^m] + (1+\delta)g_{t\theta}^m \beta n_{st}}{|J|}, \quad (13)$$

where $|J| \equiv [(1+\delta)g_{tt}^m + \alpha m_{tt} - c_{tt}^m][2g_{ss}^p + \beta n_{ss} - c_{ss}^p] - \alpha \beta n_{st}^2 > 0$. Given that each faction's second-order conditions are satisfied and that the signs of $g_{t\theta}^m$, $g_{s\theta}^p$, m_{ts} , and n_{st} are all positive, the signs of both comparative statics are positive.⁷ Thus, innovation and growth in communications and the increased influence of the media have a positive impact on dissident terrorist and political activities. This, in turn, may tempt government and law enforcement officials into responding by restricting public access to information. (In terms of the model, this involves choosing and implementing policies that are designed to lower θ .) Although delaying the release of relevant information, placing restrictions on the reporting of terrorist events, and increased censorship may all help to improve security, they may also involve substantial costs that democracies

6. In addition to the caveat, a few of the parameters are assumed to be in control of government even though the government is not directly modeled as a player in the game-theoretic sense. An interesting subject for future research is to allow government behavior and policy to be determined endogenously within the model.

7. This result is the only unequivocal result one obtains in all four scenarios under the assumptions concerning changes in θ . However, if θ is not identically equal to σ and each parameter is treated separately, the comparative-static results with respect to θ , for example, are

$$\frac{dt^*}{d\theta} = \frac{-\delta g_{t\theta}^m(g_{ss}^p + \beta n_{ss} - c_{ss}^p)}{|J|} \text{ and } \frac{ds^*}{d\theta} = \frac{\delta g_{s\theta}^p \beta n_{st}}{|J|}.$$

With $\delta > 0$, the signs of both expressions are positive for scenario 1. For signs of these expressions under other scenarios, see Table 1.

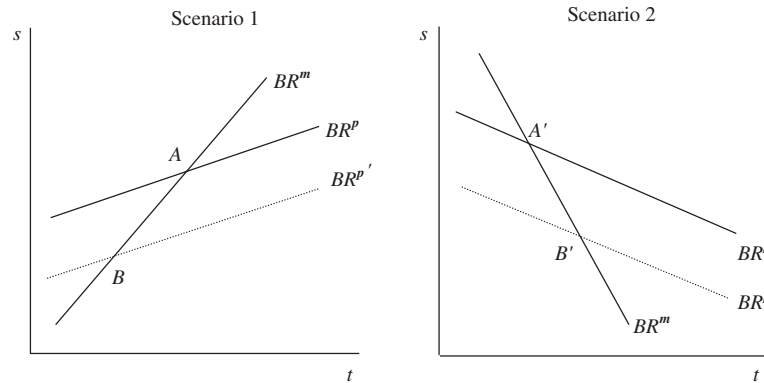


Figure 1: Comparative Statics

may increasingly find hard to bear.⁸ Another implication of the model is that if the government or government agency (such as the U.S. Department of Homeland Security) is not careful, it can become a victim of its own policies if it tries to heighten the public's awareness or tries to make "political hay" by overemphasizing the danger of terrorist attacks by playing up the terrorist threat. Such a policy may end up magnifying the impact of an attack (by raising θ) and may actually lead to increasing terrorist activity.

Innovations that affect the technology of carrying out militant and political activities (positive changes in ψ and γ) have a positive effect on both. Government efforts to counter one of these activities can thus lead to reductions in both. For example, by raising the costs of political activity by increased surveillance, as well as increased detention of political activists, and by the targeting of key leaders, a government can decrease political activity as well as militant activity. This is shown in the first panel of Figure 1, where a decrease in γ leads to a downward shift in the political faction's best-response curve and, consequently, lower levels of both activities as the equilibrium shifts from A to B .⁹ Similarly, increased surveillance of militants and increased protection of terrorist targets can also have a similar impact on the aggregate level of activity generated by the movement (through a decrease in ψ and a leftward shift in BR^m). With strong strategic effects that are complementary, piecemeal government policy is effective in altering the behavior of both factions, even though only one faction is targeted.¹⁰

8. The discussion concerning terrorism, the media, and the government's response is based on Wardlaw (1989).

9. The comparative-static results with respect to γ are given by

$$\frac{dt^*}{d\gamma} = \frac{-c_{s\gamma}^p \alpha m_{ts}}{|J|} \text{ and } \frac{ds^*}{d\gamma} = \frac{c_{s\gamma}^p (\delta g_{tt}^m + \alpha m_{tt} - c_{tt}^m)}{|J|}.$$

Given that $c_{s\gamma}^p > 0$, $ds^*/d\gamma > 0$, and given the assumptions for scenario 1, $dt^*/d\gamma > 0$.

10. This result and those that follow extend Lichbach's (1987) paper, not just to the case in which dissident activities are complements but also to the case in which dissident factions act independently of one another. For a discussion on government policies (piecemeal or comprehensive) when terrorist activities are substitutes (or complements) of one another, see Enders and Sandler (1993, 2004).

The activities of the two wings are strategic substitutes in scenario 2. An increase in the activities of one wing will tend to induce the other to reduce its activity. The implications for government policy are therefore quite different from scenario 1. Cracking down by imposing restrictions on the political arm of (say) a burgeoning movement and increasing its costs (represented by a reduction in γ) results in increasing terrorist activity. This is depicted in the second panel of Figure 1, where a downward shift of BR^p results in a change of equilibrium from A' to B' , which lowers the levels of political activity but leads to an increase in terrorist activity. If the political faction were instead a competing but more moderate militant group, the same result obviously would apply as well. From an overall organizational perspective, the analysis is therefore consistent with the empirical findings and analysis of Enders and Sandler (1993, 1995) concerning the substitution effect in terrorism in which changes in the relative costs of certain terrorist activities induce terrorist organizations to substitute out of the relatively more costly activities and into those that are relatively less costly to carry out. However, as just shown, the effect can also arise even if the terrorist activities are not coordinated among the various competing factions, a fact mentioned in Enders and Sandler (2004). Moreover, the present model offers a possible explanation that underlies the substitution effect when factions act independently of one another: a decrease in the activity of one faction (as a result of the government's crackdown on it) leads to increased demand for an alternative (possibly more violent) activity from the other faction. Underlying and supporting these changes is the fact that as the activities of the other faction increase, so does the flow of resources supporting the more active faction.

A roughly similar analysis applies to when the government targets and tries to disrupt access to a movement's resources and sponsorship (reflected in the model by a reduction in α or β). For example, if only one wing is targeted, the less-than-comprehensive policy will fail to reduce all dissident activity while actually leading to an increase in others.¹¹ This possible outcome provides a dilemma for governments that, because of publicity or pressure, feel forced into doing something, even if the policy is piecemeal. Under these conditions, governments that shut down or try to reform certain dissident-related charity organizations and education centers (such as those that are associated with religious extremism in such countries as Pakistan and Saudi Arabia) may be justified in their fears when they feel that their actions run the risk of leading to increased levels of terrorist activity, not less.

Thus, an implication for scenario 2 is that piecemeal policy may exacerbate the terrorist threat. On the other hand, judicious use of piecemeal policy may work toward at least meeting some government objectives, though not all of them. For example, allowing increased political freedoms for political expression may encourage increased dissident activity of the nonviolent type and decrease the frequency that society experiences dissident activity of the violent type.

11. Comparative-static results with respect to α are given by

$$\frac{dt^*}{d\alpha} = \frac{-m_t(g_{st}^p + \beta n_{st} - c_{ss}^p)}{|J|} \text{ and } \frac{ds^*}{d\alpha} = \frac{m_t \beta n_{st}}{|J|}.$$

With respect to scenario 2, $dt^*/d\alpha < 0$ and $ds^*/d\alpha > 0$. Note that under scenario 1, the sign of both these expressions is positive.

The interactions among wings, however, need not always be symmetric. Scenarios 3 and 4 depict two possible modes of interaction between the two groups. Scenario 3 is a case in which the activities of the political wing of the movement provide positive external benefits to the militant wing, while the militant wing imposes negative external resource costs on the political wing. In such an environment, with a positively sloped best-response curve for militants and a negatively sloped one for the political wing, the government might be better served if it limits its goals and focuses on one aspect of the movement and uses piecemeal policy. Unless multiple policies are carefully and intelligently implemented, the government cannot always expect to reduce both militant and political activities of dissident organizations at the same time.¹² For example, restricting media access to terrorist events, disrupting militant access to resources and sponsors, and raising the cost of militant activities can reduce militant activity, but it also tends to raise the activities of the other wing. Thus, to reduce the activities of the other wing, another policy must be chosen that directly targets the behavior of the other wing. However, the policy has to be sufficient to counter the effect of the other policy. In terms of the model (with s on the vertical axis and t on the horizontal), raising the cost of the militant faction's activities shifts the faction's best-response curve up, leading to a decrease in t but an increase in s . To counter the increase in s , the government must anticipate choosing a policy that directly shifts the political faction's best-response curve down enough so that the level of activity chosen by the group is near or lower than it was at the original equilibrium.

Scenario 4's characteristics may be best summarized as conditions that might exist under a democratic government. Increasing activity by the political wing may reduce the perceived need for militant action and erode its support, forcing the militant wing to cut back its operations. The best-response function for the political wing, however, is positively sloped. Increased militant activity tends to simultaneously increase the demand and support for peaceful activity. Under these conditions, a government that specifically targets the militant group can successfully reduce the activities of both groups (by inducing a downward shift of the militant's best-response curve). However, if the government also attempts to directly take on the political wing, it runs the risk of deflecting support back to the militant wing and possibly reversing the decline in terrorist activity.

The four scenarios are summarized in Table 1. Note that for scenario 3, an increase in a parameter that directly affects the militant group's best-response curve results in an increase in its activities and a decrease in the activities of the political wing (denoted respectively by a "+" sign and a "-" sign in their respective columns in the table). Any increase in a parameter that directly affects the political wing results in an increase in the activities of both factions. Since the external and strategic effects are essentially reversed for scenario 4, the comparative-static results are also reversed.

12. There is an exception to this statement if the government can implement a policy that shifts the best-response curve of the political wing down. This decreases the activities of both the political and militant wing. One reason why this policy may not be chosen is that without another policy that directly targets the militant group, a policy that strictly targets the peaceful arm of a protest movement may not be politically feasible. A more politically feasible policy is one that directly targets the militant group, while another targets the political group. Restricting political freedom can then be "sold" by the government as a necessary evil that must be endured to restrict the terrorist activities of a militant group.

TABLE 1
Summary of the Comparative Static Results under the Four Scenarios

| | $\frac{dt^*}{d\theta}$ | $\frac{ds^*}{d\theta}$ | $\frac{dt^*}{d\alpha}$ | $\frac{ds^*}{d\alpha}$ | $\frac{dt^*}{d\psi}$ | $\frac{ds^*}{d\psi}$ | $\frac{dt^*}{d\sigma}$ | $\frac{ds^*}{d\sigma}$ | $\frac{dt^*}{d\beta}$ | $\frac{ds^*}{d\beta}$ | $\frac{dt^*}{d\gamma}$ | $\frac{ds^*}{d\gamma}$ |
|---|------------------------|------------------------|------------------------|------------------------|----------------------|----------------------|------------------------|------------------------|-----------------------|-----------------------|------------------------|------------------------|
| 1 | + | + | + | + | + | + | + | + | + | + | + | + |
| 2 | + | - | + | - | + | - | - | + | - | + | - | + |
| 3 | + | - | + | - | + | - | + | + | + | + | + | + |
| 4 | + | + | + | + | + | + | - | + | - | + | - | + |

Although the four scenarios analyzed are not a complete specification of the various types of interactions that might arise between the factions and the factions and their environment, the scenarios help illustrate a few key issues of concern. If anything, the scenarios are instructive and demonstrate the need for governments and law enforcement agencies to understand the nature of the relationships between factions and their sponsors. Only after these details are worked out can it become possible for the authorities to formulate and implement the appropriate policies with which they hope to accomplish their objectives.¹³

We have also seen that when factions act independently and competitively, increased activity by one faction does not necessarily lead to an escalation of activity from the other faction. Even if all the factions of a particular movement were militant and engaged in violent activities, a resulting increase in the activity of one faction could lead to a decrease in the activities of the other factions. However, to better evaluate the effect of competition among factions and to determine whether it can lead to increased activity of both, we compare the noncooperative equilibrium with that of the cooperative outcome in the next section.

THE IMPACT OF COORDINATION

In this section, we assume that the two factions are able to coordinate their activities while taking into account the impact that the activities have on each of their interests. As argued earlier, the cooperative outcome can be characterized by maximizing (5) with respect to t and s , from which we derive the following first-order conditions:

$$(1 + 2\delta)g_t^m(t, \theta) + \alpha m_t(t, s) + \beta n_t(s, t) - c_t^m(t, \psi) = 0, \quad (14a)$$

$$3g_s^p(s, \sigma) + \alpha m_s(t, s) + \beta n_s(s, t) - c_s^p(s, \gamma) = 0. \quad (14b)$$

Solving each of these conditions simultaneously gives the optimal level of faction activities for the dissident movement: (t^{**}, s^{**}) . Note that even if militant activity

13. For policy implications concerning the relationship between government and former terrorists in terms of seeking accommodations with each other in the form of concessions and aiding in counterterrorism policy, see Bueno de Mesquita (2005 [this issue]).

TABLE 2
Results of the Impact of Coordination on Dissident Activity Levels Relative to the
Noncooperative Outcome

| | |
|--|--|
| <i>I. Symmetric (resource) external effects</i> | |
| <i>Scenario 1:</i> Mutually reinforcing actions and strategic complements | <i>Scenario 2:</i> Mutually interfering actions and strategic substitutes |
| Enhanced militant and political activity | (a) $DEE^m < 0, DEE^p > 0$: Reduced militant and enhanced political activity (b) $DEE^m > 0, DEE^p < 0$: Enhanced militant and reduced political activity (c) $DEE^m < 0, DEE^p < 0$: Results ambiguous (see text) (d) $DEE^m > 0, DEE^p > 0$: Results ambiguous (see text) |
| <i>II. Asymmetric (resource) external effects</i> | |
| <i>Scenario 3:</i> Direct and indirect militant external costs and political external benefits | <i>Scenario 4:</i> Direct and indirect militant external benefits and political external costs |
| (a) $DEE^m < 0, DEE^p > 0$, and $U_{ts} \approx 0$: Reduced militant and enhanced political activity (b) $DEE^m > 0, DEE^p > 0$, and $U_{ts} \approx 0$: Enhanced militant and political activity | (a) $DEE^m > 0, DEE^p < 0$, and $U_{ts} \approx 0$: Enhanced militant and reduced political activity (b) $DEE^m > 0, DEE^p > 0$, and $U_{ts} \approx 0$: Enhanced militant and political activity |

does not contribute toward the public good aspect of the movement and maybe even detracts from it ($\delta \leq 0$), while hurting sponsorship of the political wing ($n_t(s, t) < 0$), as assumed in scenarios 2 and 3, the cooperative outcome does not necessarily result in a corner solution in which terrorist activity is strictly curtailed such that $t^{**} = 0$. Thus, even when a militant group's activities appear to harm the overall prospects for the dissident organization's success, there appears to be a level of tolerance within the organization that enables it to still condone a certain level of terrorist activity, provided that it has sufficient support from its sponsors.

With respect to the differences in outcomes between the cooperative and non-cooperative solutions, a quick comparison of equations (14a) and (14b) with that of (6) and (9) provides us with the expressions that measure the direct external effects that exist between the two factions. Furthermore, these expressions enable us to have a better understanding of the nature of the interaction between the two factions under the four different scenarios. For future reference, the direct external effects that are generated by each wing's activities but not taken into account when they act independently of one another are given by

$$DEE^m = \delta g_t^m + \beta n_t, \quad (15a)$$

$$DEE^p = g_s^p + \alpha m_s, \quad (15b)$$

where DEE^m and DEE^p are the externalities generated by the activities of militant and political wings, respectively. When both wings cooperate and coordinate their actions, these externalities are internalized. Depending on the scenario and the relative strengths of the two terms in each expression (if they happen to be of opposite sign), DEE^i can be either positive or negative.¹⁴ Under scenario 1, the sign of both is positive since the activities of both factions generate positive externalities, whereas under scenario 3, $DEE^p > 0$ since the activities of the political wing provide external benefits. Under scenario 4, $DEE^m > 0$; the situation is reversed, and it is the activities of militant wing that generate positive externalities. In all other cases, the overall signs of these expressions remain unclear. Consequently, when comparing the noncooperative and cooperative outcomes, assumptions concerning some of the signs of these expressions have to be made. The same holds true for the indirect effects in scenarios 3 and 4 since the best-response curves of the two factions are assumed to be of opposite slope. However, given that the indirect (or cross) effects consist of two terms of opposite signs in both scenarios, it is assumed that they effectively cancel each other out so that the following holds: $U_{is} = \alpha m_{is} + \beta n_{is} \approx 0$.¹⁵ These assumptions are given in Table 2, along with the results of the comparisons made between the two outcomes. The details of the derivation are given in the appendix.

Even a cursory reading of Table 2 should make it clear that definitive results concerning the impact of coordination are not possible. But to put it another way, in terms of the hypothesis that increased competition among factions leads to an escalation of activity, it is clear from the results that competition among factions does not always result in higher levels of activity for all factions. When activities are strategic complements and possess positive direct externalities, as in scenario 1, activity levels are actually higher when factions coordinate their activities than when they do not; that is, $t^{**} > t^*$ and $s^{**} > s^*$. Internalizing positive externalities means that more of the externality-generating activities ought to be undertaken. The fact that the activities are strategic complements just reinforces the direction in which the externalities get internalized. Under these conditions, coordination among factions increases the effectiveness of the movement. In such cases, of which the group Hamas may be one, there may be little separating an organization's militant and political activities. On the other hand, one implication for counterterrorism policy concerning these types of groups is to prevent and disrupt such coordination and to encourage the breakup of the movement into various competing factions.

Under conditions described for scenario 2, and perhaps surprisingly for the scenario that could be considered the most competitive of the ones examined, the impact of coordination on the activity levels of factions is somewhat ambiguous. The activity levels of a faction can only be determined when the direct external effects are of opposite sign since the activities are strategic substitutes. When activities are strategic substitutes, an increase in one activity tends to diminish the marginal productivity of the other; therefore, when a negative and a positive externality gets externalized (e.g., $DEE^m < 0$ and $DEE^p > 0$), the negatively sloped best-response functions reinforce the

14. For simplicity, we ignore the possibility that the two terms sum to zero.

15. The assumption sometimes is too strong and is not always necessary to make the comparison between t^{**} and t^* and between s^{**} and s^* . See the appendix for details.

internalization process as more of the positive externality-generating activity and less of the negative externality-generating activity take place. However, when the direct external effects are of the same sign, the direct and indirect effects work against each other, as in cases (c) and (d).¹⁶ No definitive result is forthcoming unless more restrictions are imposed. For instance, if the indirect effects on resource support are insignificant, such that $U_{ts} \approx 0$, and faction activities are coordinated, then militant and political activities are reduced in case (c) and increased for case (d).

Scenarios 3 and 4 can be summarized quite easily when the direct external effects are dominant. Coordination by factions within a dissident organization entails cut-backs in activities that generate negative externalities (as when militant actions diminish the public good aspect of a dissident movement and decrease political support for the other faction). On the other hand, all activities that generate positive externalities should be increased. The opposite implication holds when a dissident organization breaks up into competing factions. For example, if one group generates a negative externality (as the militant group does in scenario 3), then the breakup will cause an increase in those types of activities and a reduction of the activities of the other faction that generates the positive externalities (as the political wing does in scenario 3). In this case, a breakup of the original movement into competing factions can result in an escalation of violence and a decrease in the activities of the nonmilitant faction.

CONCLUSIONS

Given a terrorist group's need for funds to support its objectives and operations, it is not surprising that this need has implications for militant behavior. However, we have also shown that a militant group's actions have possible implications for the behavior of other groups that are associated with the dissident movement as well. Another consequence of the need for financing is the result that organized groups still have incentives to engage in violent activities, even if the activities detract from the overall level of the public good provided by the movement. This holds whether or not the factions coordinate their activities.

Given the dependence of dissident movements on the support of their members and sponsors, it was also proposed that a variety of differing interactions might exist between factions and between factions and their supporters. If true, the results of this study then indicate the need for policy makers and governments to obtain better information concerning the threat they face to design and implement more effective policies. Thus, to choose appropriate counterterrorism policy, the government needs to understand the relationships between all relevant groups that are potentially affected by the policy, militant as well as political and religious groups.

We have also demonstrated that when an organization splinters into various competing factions, the result does not always lead to increased dissident activity and vio-

16. Another possible scenario is one in which the direct external resource effects are negative and both best-response curves are positively sloped ($m_s < 0$, $n_f < 0$, $m_{st} > 0$, and $n_{ts} > 0$). However, the results are similar in nature to scenario 2 (but reversed). Nonetheless, the example again demonstrates the fact that increased competition between factions does not always lead to increased levels of activity by both factions.

lence. As the four scenarios illustrated, both levels of activity may actually fall, or one activity may rise while the other falls. One implication of this result is that a dissident group and its leaders must be mindful of its support as well, for that too plays an active role in the determination of the levels and composition of the activities within the movement.

APPENDIX

To make the comparison between the noncooperative and cooperative outcomes, the mean-value theorem is used (see Brander and Spencer 1983). For convenience, the first-order conditions characterizing the cooperative (*c*) and noncooperative (*n*) outcomes are given as follows:

$$U_t^c(t, s) = (1 + 2\delta)g_t^m(t, \theta) + \alpha m_t(t, s) + \beta n_t(s, t) - c_t^m(t, \psi) = 0,$$

$$U_s^c(t, s) = 3g_s^p(s, \sigma) + \alpha m_s(t, s) + \beta n_s(s, t) - c_s^p(s, \gamma) = 0,$$

$$U_t^n(t, s) = (1 + \delta)g_t^m(t, \theta) + \alpha m_t(t, s) - c_t^m(t, \psi) = 0,$$

$$U_s^n(t, s) = 2g_s^p(s, \sigma) + \beta n_s(s, t) - c_s^p(s, \gamma) = 0.$$

Applying the theorem to $U_t^c(t, s)$ and $U_s^c(t, s)$, we obtain the following system:

$$\begin{bmatrix} U_{tt}^c & U_{ts}^c \\ U_{st}^c & U_{ss}^c \end{bmatrix} \begin{bmatrix} t^{**} - t^* \\ s^{**} - s^* \end{bmatrix} = \begin{bmatrix} U_t^c(t^{**}, s^{**}) - U_t^c(t^*, s^*) \\ U_s^c(t^{**}, s^{**}) - U_s^c(t^*, s^*) \end{bmatrix}$$

where U_{tt}^c , U_{ts}^c , U_{st}^c , and U_{ss}^c are evaluated at some point between (t^{**}, s^{**}) , the cooperative solution, and (t^*, s^*) , the noncooperative solution. It is also assumed that the determinant of the first matrix is positive:

$$|\Delta| \equiv [(1 + 2\delta)g_{tt}^m + \alpha m_{tt} + \beta n_{tt} - c_{tt}^m](3g_{ss}^p + \alpha m_{ss} + \beta n_{ss} - c_{ss}^p) - (\alpha m_{ts} + \beta n_{ts})^2 > 0.$$

Solving the system for $t^{**} - t^*$ and $s^{**} - s^*$ gives the following expressions:

$$t^{**} - t^* = \frac{[U_t^c(t^{**}, s^{**}) - U_t^c(t^*, s^*)]U_{ss}^c - [U_s^c(t^{**}, s^{**}) - U_s^c(t^*, s^*)]U_{ts}^c}{U_{tt}^c U_{ss}^c - U_{st}^c U_{ts}^c}, \quad (A1)$$

$$s^{**} - s^* = \frac{[U_s^c(t^{**}, s^{**}) - U_s^c(t^*, s^*)]U_{tt}^c - [U_t^c(t^{**}, s^{**}) - U_t^c(t^*, s^*)]U_{st}^c}{U_{tt}^c U_{ss}^c - U_{st}^c U_{ts}^c}. \quad (A2)$$

To sign these expressions, we need to sign the numerators of both (A1) and (A2) and use the following information:

$$U_{tt}^c = (1 + 2\delta)g_{tt}^m + \alpha m_{tt} + \beta n_{tt} - c_{tt}^m < 0, \quad (A3)$$

$$U_{ss}^c = 3g_{ss}^p + \alpha m_{ss} + \beta n_{ss} - c_{ss}^p < 0, \quad (A4)$$

$$U_{st}^c = U_{ts}^c = \alpha m_{ts} + \beta n_{ts}, \quad (A5)$$

and

$$U_t^c(t^{**}, s^{**}) - U_t^c(t^*, s^*) = -U_t^c(t^*, s^*), \quad (A6)$$

APPENDIX (continued)

$$U_s^c(t^{**}, s^{**}) - U_s^c(t^*, s^*) = -U_s^c(t^*, s^*), \quad (A7)$$

since $U_t^c(t^{**}, s^{**}) = 0$ and $U_s^c(t^{**}, s^{**}) = 0$. Thus we can rewrite (A1) and (A2) as

$$t^{**} - t^* = \frac{-U_t^c(t^*, s^*)U_{ss}^c + U_s^c(t^*, s^*)U_{ts}^c}{U_{tt}^c U_{ss}^c - U_{st}^c U_{ts}^c}, \quad (A1')$$

$$s^{**} - s^* = \frac{-U_t^c(t^*, s^*)U_{tt}^c + U_t^c(t^*, s^*)U_{st}^c}{U_{tt}^c U_{ss}^c - U_{st}^c U_{ts}^c}. \quad (A2')$$

Using the first-order conditions that characterize the noncooperative outcome, we can rewrite (A6) and (A7) as

$$U_t^c(t^*, s^*) = [\delta g_t^m + \beta n_t], \quad (A8)$$

$$U_s^c(t^*, s^*) = [g_s^m + \beta m_s]. \quad (A9)$$

Note that the expressions in (A8) and (A9) are just the direct external effects: DEE^m and DEE^p . Using the assumptions under each scenario and additional assumptions as needed, we can sign the expressions in (A1') and (A2'), except for cases (c) and (d), under scenario 2. The explanation for the two exceptions is given within the text of the article.

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